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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,959	12/04/2002	Stephen Daniel Graham	17MY-7106	2534
27127	7590	03/04/2004	EXAMINER	
HARTMAN & HARTMAN, P.C. 552 EAST 700 NORTH VALPARAISO, IN 46383			BARR, MICHAEL E	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

<b>Office Action Summary</b>	<b>Application No.</b> 10/065,959	<b>Applicant(s)</b> GRAHAM ET AL.	
	<b>Examiner</b> Michael Barr	<b>Art Unit</b> 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-13 is/are allowed.
- 6) ☒ Claim(s) 1-8 and 16 is/are rejected.
- 7) ☒ Claim(s) 9, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments and amendments, filed 1/30/2004, have been fully considered and reviewed by the examiner. In light of the amendments to the claims, the rejections to the claims under 35 USC 102 and 103 have been withdrawn by the examiner. Also, in light of the applicant's statement of assignee's co-ownership of the present application and the Pfaendtner reference, the Pfaendtner reference is no longer considered as prior art and thus its use as such is no longer being maintained. The examiner acknowledges the addition of Claims 13-16. Claims 1-16 are pending.

The applicant argues that Maricocchi does not teach that the aluminide powder mixture is applied as a slurry coating or is flowed through an internal passage. The examiner respectfully disagrees. As indicated in the previous office action, Maricocchi teaches forming the diffusion aluminide coating on the internal cooling passage of the superalloy substrate, where the coating materials can be applied to the substrate in the form of a suspension (i.e. slurry), where the applied coating materials are then heated to form the diffusion aluminide coating (Col. 5, lines 28-59). Such slurry application to the internal cooling passage would have inherently required flowing the slurry through the passage. Therefore, it is the examiner's position that Maricocchi provides a fair teaching of applying aluminide powder mixture as a slurry coating and that it is flowed through an internal passage of the substrate.

The applicant further argues that Maricocchi does not teach that the slurry includes an inorganic binder solution or that the slurry is applied by spraying. A new grounds of rejection follows to meet these deficiencies.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maricocchi in view of Meelu et al.

Maricocchi is applied here for the same reasons as given above and in paragraph 2 of the previous office action. Maricocchi does not teach that the slurry includes an inorganic binder solution. However, the inclusion of an inorganic binder in a diffusion aluminide slurry is known and conventional in the art, as shown by Meelu et al. Meelu et al. teaches forming a diffusion aluminide coating on a superalloy substrate by applying an aluminum particle slurry to the substrate and then diffusion heat treating, where the slurry includes an inorganic binder solution, which is removed by the heat treating (Col. 6, lines 1-24; Col. 12, lines 8-29). It would have been an obvious modification to the slurry of Maricocchi to include an inorganic binder solution, with the expectation of providing the desired diffusion aluminide coating to the superalloy substrate of Maricocchi, since it is shown by Meelu et al. that the inclusion of such an additive is

Art Unit: 1762

known and conventional for diffusion aluminide slurries for superalloy substrates, similar to that of Maricocchi.

Maricocchi does not teach applying the slurry by spraying. Maricocchi is silent as to the preferred application technique. Therefore, one skilled in the art would look to conventional application methods in order to effectively apply the slurry to the superalloy substrate. Meelu et al. teach applying the slurry to the superalloy substrate by spraying (Col. 16, lines 3-5). It would have been obvious to one skilled in the art to apply the slurry by spraying in Maricocchi, with the expectation of providing the desired slurry application, since it is shown by Meelu et al. that spray application is a typical deposition technique to such aluminide slurries to superalloy substrates.

***Allowable Subject Matter***

4. Claims 10-13 are allowed.
5. Claims 9 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter:  
The Maricocchi prior art fails to teach or fairly suggest that the slurry consist essentially of aluminum particles in an inorganic binder solution or consist essentially of aluminum particles, inorganic binder solution, silicon, and chromia, as Maricocchi requires the presence of ceramic particles in the coating mixture, which would be excluded by the "consisting essentially of"

Art Unit: 1762

language. Maricocchi further does not teach that the process repairs a portion of an existing bond coat exposed by a spalled region of the ceramic coating.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 1762

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Barr whose telephone number is 571-272-1414. The examiner can normally be reached on Monday-Thursday 6:00 am-3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 571-272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Barr  
Primary Examiner  
Art Unit 1762

MB  
February 24, 2004

